We claim:

1. A process for the continuous production of a mixture of substances or of a reaction mixture that has been formed by reaction of components contained therein, comprising withdrawing individual components from storage containers or from distribution networks, forming continuous streams of the individual components, conveying each component stream by a controlled system including a mass-flow or volume-flow measuring device and a regulating element for regulating the rate of flow, regulating flow-rates of the individual components in quantitatively proportional manner with reference to the flow-rate of a first component and introducing the regulated flow-rates of the components of the mixture of substances into a receiving container, immediately or after individual flow-rates have been completely or partially conducted together, thereby bringing together the individual components forming the mixture of substances and, in the case of the production of a reaction mixture, allowing the mixture of substances to stand in a container until a desired conversion has been established.

2. The process according to Claim 1, further comprising measuring flow by a device for mass-flow measurement or a metering pump.

3. The process according to Claim 1, further comprising drawing the streams off from the storage containers and conveying them via the controlled system by pumps or by available preliminary pressure.

4. The process according to Claim 2, further comprising drawing the streams off from the storage containers and conveying them via the controlled system by pumps or by available preliminary pressure.

5. The process according to Claim 1, further comprising keeping regulating conditions constant by adjusting the preliminary pressure of the respective component stream upstream of the respective controlled system is adjusted to a constant value.

6. The process according to Claim 2, further comprising keeping regulating conditions constant by adjusting the preliminary pressure of the respective component stream upstream of the respective controlled system is adjusted to a constant value.

7. The process according to Claim 3, further comprising keeping regulating conditions constant by adjusting the preliminary pressure of the respective component stream upstream of the respective controlled system is adjusted to a constant value.

8. The process according to Claim 4, further comprising keeping regulating conditions constant by adjusting the preliminary pressure of the respective component stream upstream of the respective controlled system is adjusted to a constant value.

9. The process according to Claim 1, further comprising conducting quantitatively proportional component streams together in succession and homogenizing partial streams that are formed or total stream that is formed with of mixing elements.

10. The process according to Claim 2, further comprising conducting quantitatively proportional component streams together in succession and homogenizing partial streams that are formed or total stream that is formed with of mixing elements.

11. The process according to Claim 3, further comprising conducting quantitatively proportional component streams together in succession and homogenizing partial streams that are formed or total stream that is formed with of mixing elements.

12. The process according to Claim 4, further comprising conducting quantitatively proportional component streams together in succession and homogenizing partial streams that are formed or total stream that is formed with of mixing elements.

13. The process according to Claim 1, further comprising measuring rate of flow of the total stream that has formed or the total quantity of the individual streams or partial streams introduced into the container or of the total stream and equalizing with the sum of the individual streams.

14. The process according to Claim 2, further comprising measuring rate of flow of the total stream that has formed or the total quantity of the individual streams or partial

streams introduced into the container or of the total stream and equalizing with the sum of the individual streams.

15. The process according to Claim 3, further comprising measuring rate of flow of the total stream that has formed or the total quantity of the individual streams or partial streams introduced into the container or of the total stream and equalizing with the sum of the individual streams.

16. The process according to Claim 4, further comprising measuring rate of flow of the total stream that has formed or the total quantity of the individual streams or partial streams introduced into the container or of the total stream and equalizing with the sum of the individual streams.

17. The process according to Claim 1, further comprising producing an aqueous equilibrium solution of peroxycarboxylic acid from the components comprising lower carboxylic acid, aqueous hydrogen peroxide, water and mineral-acid catalyst, whereby the component streams of carboxylic acid, water, mineral acid, or a partial stream containing carboxylic acid, water and mineral acid, and aqueous hydrogen peroxide are conveyed into the receiving container simultaneously in quantitatively proportional ratio or, in the case where the individual component streams have previously been conducted together, adding aqueous hydrogen peroxide by way of final component and bringing about the establishment of equilibrium by allowing the mixture to stand.

18. The process according to Claim 2, further comprising producing an aqueous equilibrium solution of peroxycarboxylic acid from the components comprising lower carboxylic acid, aqueous hydrogen peroxide, water and mineral-acid catalyst, whereby the component streams of carboxylic acid, water, mineral acid, or a partial stream containing carboxylic acid, water and mineral acid, and aqueous hydrogen peroxide are conveyed into the receiving container simultaneously in quantitatively proportional ratio or, in the case where the individual component streams have previously been conducted together, adding aqueous hydrogen peroxide by way of final component and bringing about the establishment of equilibrium by allowing the mixture to stand.

19. The process according to Claim 3, further comprising producing an aqueous equilibrium solution of peroxycarboxylic acid from the components comprising lower carboxylic acid, aqueous hydrogen peroxide, water and mineral-acid catalyst, whereby the component streams of carboxylic acid, water, mineral acid, or a partial stream containing carboxylic acid, water and mineral acid, and aqueous hydrogen peroxide are conveyed into the receiving container simultaneously in quantitatively proportional ratio or, in the case where the individual component streams have previously been conducted together, adding aqueous hydrogen peroxide by way of final component and bringing about the establishment of equilibrium by allowing the mixture to stand.

20. The process according to Claim 4, further comprising producing an aqueous equilibrium solution of peroxycarboxylic acid from the components comprising lower carboxylic acid, aqueous hydrogen peroxide, water and mineral-acid catalyst, whereby the component streams of carboxylic acid, water, mineral acid, or a partial stream containing carboxylic acid, water and mineral acid, and aqueous hydrogen peroxide are conveyed into the receiving container simultaneously in quantitatively proportional ratio or, in the case where the individual component streams have previously been conducted together, adding aqueous hydrogen peroxide by way of final component and bringing about the establishment of equilibrium by allowing the mixture to stand.

21. A system for the continuous production of mixtures of substances or of reaction mixtures compromising a plurality of storage containers or distribution networks for individual components of the mixture of substances, a plurality of devices for metering the individual components and a receiving container, a line branching off from each storage container or distribution network in the form of a controlled system, each such controlled system having a flow-measuring device and a regulating element for regulating the rate of flow and a regulator unit with control lines enabling a quantitatively proportional metering of the components, and a plurality of lines connected downstream of the controlled systems leading into a receiving container, immediately or after individual lines or all lines have been guided together.

22. The device according to Claim 21, further comprising a mass-flow meter or a metering pump for the purpose of flow measurement as a part of the controlled system

23. The device according to Claim 21, further comprising a plurality of pumps and devices for keeping the preliminary pressure constant arranged in each instance between the storage containers and each controlled system upstream of the controlled system.

24. The device according to Claim21, further comprising a plurality devices for process-management engineering for the purpose of coordinating the measurements and regulators with one another.

25. The device according to Claim 21, further comprising a mixing element, in a line following bringing together said plurality of line leading to said receiving container.